

ABSTRACT

A semiconductor device having a variable capacitance capacitor and a method of manufacturing the same are disclosed. An example semiconductor device includes a capacitor having a bottom electrode, a dielectric layer and an upper electrode, formed on a semiconductor substrate. The example semiconductor also includes a first insulating layer formed on the semiconductor substrate to cover the capacitor, a first contact plug formed in a first via hole of the first insulating layer and electrically connected to the bottom and upper electrodes, a first metal wiring formed on the first insulating layer and connected to the bottom electrode through the first contact plug, a second contact plug formed on the first insulating layer and connected to the upper electrode through the first contact plug, and a second insulating layer formed on the first insulating layer to cover the first metal wiring and the second contact plug. In addition, the example semiconductor device includes an anti-fuse formed in a certain thickness in a second via hole of the second insulating layer and electrically connected to the second contact plug, a third contact plug filling the second via hole on the anti-fuse, and a second metal wiring formed on the second insulating layer and electrically connected to the third contact plug.